

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

55-DR-2006

5/30/2006

DESIGN REVIEW BOARD NARRATIVE

Project Description

1. The existing **Saguaro High School** in the Scottsdale Unified School District, will be reconstructed on the existing campus, in a phased construction sequence of new buildings, demolition, and remodeling of existing buildings. The campus reconstruction is being done as part of the School District's comprehensive facility master plan that provides for the accomplishment of the following District-wide objectives:
 - Increase student and staff safety and security.
 - Improve on-site and off-site traffic circulation, and on-site parking.
 - Eliminate existing building / life safety code violations.
 - Comply with ADA accessibility standards.
 - Comply with Title IX equal opportunity requirements.
 - Accommodate changing student enrollment.
 - Improve the quality of learning environments for student achievement.
 - Provide facilities that fully support, rather than limit, the educational programs offered to students.
 - Increase energy efficiency and lower operating and maintenance costs, saving in annual operational funds that can be redirected to educational purposes.
 - Reduce ongoing facility repair costs avoiding additional capital expenditures over the next 10 years.
 - Lower the life-cycle costs to extend the life of the school facilities.
 - Provide equity and equal opportunity across the District's high schools.
2. The campus is located in an existing residential community in Scottsdale, Arizona. It is bounded on the west by Hayden Road, on the north by Pueblo Elementary School, on the south by E. Valley Vista Drive (Sabercat Lane), and by 82nd Street on the east. Vehicular access onto the site will be from: 82nd Street and E. Valley Vista Drive for students, staff, and emergency vehicles; from E. Valley Vista Drive for school buses; and from 82nd Street for public / visitors and parent drop-off.
3. The additions and renovations on the Saguaro High School campus are designed to complement the school's existing curriculum, allow for potential enrollment expansion, and incorporate the Scottsdale Unified School District's updated facility standards. The approximately **301,120 square foot facility** is designed to accommodate **1,750 students** in grades 9 through 12, and is comprised of the following buildings:
 - New one-story Administration Building of approximately 10,600 SF, containing staff administration offices and the nursing / health office;
 - Two new two-story Classroom Buildings 100 and 300 of approximately 72,840 SF and 82,350 SF respectively, containing all core-curriculum classrooms, Visual Arts classrooms and Career / Technical Education classrooms;
 - Remodeled Media Center / Classroom Building 200, with new food service kiosk, of approximately 17,215 SF;
 - Remodeled Cafeteria / Maintenance / Central Plant Building 500 of approximately 18,750 SF;

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

- Remodeled Gym / Physical Education Building 600 of approximately 49,975 SF;
 - Remodeled Auditorium / Performing Arts / Music Building 700 of approximately 37,690 SF (including Auditorium balcony);
 - Remodeled Physical Education Fieldhouse Building 800, of approximately 8,700 SF, located underneath the existing football stadium grandstands;
 - New Restroom / Concession Fieldhouse building 900, of approximately 3,000 S.F., located on the east side of the football stadium to serve both home team and visiting team fans.
4. The campus organization lends itself to a controlled environment for security purposes, and is master-planned for completion through 3 construction phases over a 2.5-year period, in a sequence of site and building demolition, renovation / remodel and new construction. Final completion of the Saguaro High School campus is targeted for the 2008 /2009 school year. The High School is designed to exceed the minimum Adequacy Guidelines set forth by the State of Arizona School Facilities Board (SFB).
5. The **phasing of the campus master-plan** will include the following new construction, demolition and site-work, as shown on the Schematic Phasing Plans:
- **Phase 1a** (May - July 2006)
 - Demolish the existing main parking lot for construction staging area and construction of the new Phase 1b Classroom and Administration buildings;
 - Demolish the existing varsity baseball field for interim site use as a paved parking lot for staff and students, with interim curb cuts onto 82nd Street;
 - Demolish the existing concrete-walled handball courts, 2 tennis courts, 4 basketball courts, J.V. softball and baseball fields, and practice football field;
 - Construct new Varsity baseball field, interim football practice / soccer field, and 2 tennis courts;
 - Demolish interior of Band classroom building on south side of Auditorium in Building 700;
 - School District to remove all furniture, fixtures and equipment from the existing Wood Shop in Building 500 for interim use as Band classroom, and relocate the Band curriculum into the room;
 - **Phase 1b** (August 2006 - July 2007)
 - Construct new two-story Classroom Building 100 and single-story Administration Offices building;
 - Remodel of portion of existing Faculty Dining in Building 500 for construction of the new Main Electrical Room.
 - Construct new Cooling Tower Yard on west side of Building 500;
 - Construct new Restroom / Concession (Fieldhouse) Building 900;
 - Remodel interior of building on south side of Auditorium Building 700 into Drama and Dance classrooms;
 - Remove existing equipment at 2 basketball courts, and use slab for construction staging area, at south end of stadium grandstands;
 - Construct transformer yard for new main transformer for campus.
 - **Phase 2a** (June - July 2007)
 - Demolish the existing Administration office building, south classroom building 100 and utility tunnel below Administration building (after occupancy of the new buildings);

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

- Auditorium Building 700: remodel of the Auditorium lobby and portion of the Performing Arts Classrooms on north side of Auditorium; demolition of portion of remainder of Performing Arts Classrooms on north side of Auditorium;
- School District to relocate Dance and Drama into remodeled classrooms at south side of Auditorium Building 700;
- Reconstruct existing west service road as new bus and fire lane w/ adjacent staff parking;
- Demolish the existing Cooling Tower Yard and remodel the existing Central Plant (after construction of the new yard);
- Construct new student / staff / visitors parking lot on south side of new Administration / Classroom Building 100;
- Remodel existing Health Careers classroom in Building 500 for interim use as Vocal and Strings classrooms; relocate Vocal and Strings curriculum into the remodeled rooms;
- Demolish interior of locker rooms on north side of Competition Gymnasium in Building 600;
- Remodel building area on north side of Competition Gym in Building 600 into Wrestling room, P.E. classroom, toilet rooms and Office;
- Remodel interior of athletic Building 800 below grandstands;
- Reconstruct existing synthetic running track at stadium.
- **Phase 2b** (August 2007 - June 2008)
 - Construct new two-story Classroom Building 300, w/ upper-level walkway connection to Classroom Building 100;
 - Construct new central Courtyard with Amphitheater;
 - Construct new Performing Arts addition (for Band and choir classrooms) and staff parking on north side of Building 700;
 - Remodel west side of Media Center Building 200.
- **Phase 3a** (June - August 2008)
 - Construct new parent drop-off lane on east side of Classroom Building 300;
 - Remodel the Kitchen, Cafeteria and restrooms, Maintenance Warehouse, and add Restroom / Concessions area within the north end for athletic field use, in Building 500;
 - Construct food service kiosk at west side of Building 200 dining patio;
 - Remodel of the Locker Rooms, Training Room, restrooms and Wrestling Room on south side of the Competition Gymnasium in Building 600;
 - Construct new staff and student parking lot on north side of Media Center Building 200 and new Classroom Building 300;
 - Demolish the existing classroom buildings 300, 400 and north half of 500 (after occupancy of the new classroom building) and existing portions of the below-floor utility tunnels.
- **Phase 3b** (August - December 2008)
 - Construct new varsity and J.V. softball fields, J.V. baseball field and new football practice / soccer field;
 - Construct new staff parking within bus lane loop;
 - Construct fire lane connecting north parking lot and bus lane loop.

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

Design Approach

1. **Design Objectives:** Following is a list of pre-design goals and objectives gathered from meetings with the staff, school administrators, Saguaro High School Site Council, the School District, and the community.
 - Atmosphere
 - Student-friendly
 - Home away from home - staff and students
 - Some staff / students are there long hours for practices, clubs, etc.
 - Create spaces that are warm, comfortable, pleasant, safe, attractive, inspiring
 - Openness to outside community
 - Student gathering / socialization
 - Shade!
 - Improve the quality of learning environments for student achievement
 - Provide equity and equal opportunity across the District
 - Provide facilities that fully support the educational programs offered to students
 - Context
 - Visual connection of Administration / campus entrance to southeast corner of site
 - Exterior design that respects context of existing neighborhood developments
 - Welcoming entrances to campus - for both public and students (from bus, parking lots, street, etc.) - anyone who enters campus should want to stay
 - Celebration
 - Special common areas to showcase each discipline's work, subject matter, awards
 - Celebrate student work and achievements with multiple display areas, opportunities
 - Integrate history and tradition of Saguaro High School into building design
 - Architecture / Design
 - School as teaching tool
 - Comply with Title 9 equal opportunity requirements
 - Accommodate changing student enrollment
 - Flexibility in how spaces can be used and sized
 - Environmental responsibility
 - Increase energy efficiency and lower operating / maintenance costs
 - Reduce ongoing facility repair costs and additional capital expenditures
 - Extend life of the facility and lower life-cycle costs
 - Raise the bar on neighborhood with good design
 - Main Entrance - high profile, showcase best of school's history and achievements
 - Fluid - move easily through campus and vertical circulation in 2-story building
 - Outdoor teaching spaces - well designed to be used extensively
 - Transparency - avoid sterile "I-don't-know-what's-in-that-room" walls
 - Eliminate existing building / life safety code violations
 - Comply with ADA accessibility standards
 - Site
 - Pleasant procession between buildings - tree-lined, wide, inviting
 - Gathering / seating areas within the courtyard

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

- Avoid landscape materials that are difficult to maintain and make campus look neglected
 - Secure staff access to and from Administration offices
 - Increase student safety and security (fencing, cameras, door access)
 - Improve traffic circulation and parking for students / staff / visitors
 - Improve school bus circulation
- 2. **Memorable Goals:** The Memorable Goals are a compilation of the pre-design input gathered from staff, school administrators and neighbors.
 - Interior and exterior atmosphere should be welcoming and inviting. This should be achieved through the character of both the buildings and landscape design.
 - Create a prominent and inviting campus entry statement easily recognizable from the southeast, the primary approach to the campus.
 - Create a site plan that improves the quality of daily life in surrounding neighborhoods (mitigation of car traffic, bus routes, alleys as thorough fares, etc.).
 - Celebrate student achievements through displays located throughout the building plans as well as the site. Relocate existing memorials and dedication plaques and create opportunities for new ones.
 - Architectural character should avoid the sterile, bare, colorless concrete of the existing campus with good design that will “raise the bar” for the entire neighborhood.
 - Tie together existing and new buildings into a cohesive character by reflecting good design elements of the existing architectural vocabulary in new construction.
- 3. The Saguaro High School campus design organizes the buildings around and facing an exterior Courtyard, which will allow student / staff interaction and supervision of students as they move about the campus. Fencing between the buildings provides a clearly defined and secured campus perimeter with limited access / egress points from the visitor parking lot on the east, and from the staff and student parking lots on the south and north.
- 4. One axis of circulation through the breezeway between the Administration building and Phase 1 classroom building serves as the primary public and visitor entry to the campus. This entry axis intersects the Courtyard with other inter-building circulation paths that also connect with an amphitheater adjacent to the Administration building and the covered dining patio. The primary secured entry points for the public and visitors are given visual and physical control by the placement of the reception area lobby in the Administration building along this circulation axis. A second circulation axis between the Administration building and Phase 2 classroom building serves as the primary student entry from the parent drop-off area.
- 5. The campus layout arranges the 2-story classroom building and administration building to enclose the Courtyard on its east and south sides, and the existing Media Center building on its north side. The circulation Courtyard helps to separate these buildings from the existing Gymnasium buildings, the Cafeteria building, and the Auditorium / Performing Arts building, all on the west side of the courtyard, to create “passive” and “active” areas. The campus layout also facilitates an organized separation of curriculum functions while maintaining a very efficient distribution of those functions.

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

6. The campus is designed to engage the activities of educators and students, staff, community members and parents in the following variety of settings, while providing everyone with a 'sense of place.'
 - The community-at-large is provided with easy access to the campus facilities, adequate parking for events, and shared use by the community of the High School's Auditorium, Lecture Halls, Gymnasiums, athletic fields and courts.
 - The Auditorium, and outside amphitheater in the Courtyard, given their location and easy public access from the main parking lot and streets, will accommodate large performance activities within the community. The Lecture Halls, also with easy access from the parking lot and streets, will facilitate special-occasion speaking events and classes without requiring the Media Center to provide space for those functions.
 - The Cafeteria servery, in conjunction with the exterior "satellite" snack bar and food service kiosk, will provide food service for the maximum number of students during the lunch period. To maximize an interior / exterior dining connection, the Cafeteria opens out to a south and east facing covered dining patio and student gathering space, which connects with the northwest corner of the Courtyard. While fostering social interaction, it will also enable full supervision of students both indoors and outdoors.
7. The need to expedite the construction schedule of the Phase 1 and 2 two-story classroom buildings prompted the design and Construction Management team to decide on the following building system and materials that are efficient to construct, and cost effective as a result.
 - Steel-frame structural system with masonry veneer and stucco supported on structural gauge exterior metal stud walls, in lieu of load-bearing masonry.
8. The history and tradition of Saguaro High School are being integrated into the design for the new campus by the following strategies and directives, as requested by SUSD and the Saguaro High School staff and Site Council:
 - Commemorative displays of archived information and artifacts, both within the buildings at daily-used circulation areas and areas of public use, and exterior courtyards.
 - Relocation of the existing stained-glass mural from the exterior entry wall of the existing Auditorium, to the interior wall of the expanded Auditorium lobby.
9. The School District directed that the design of the new campus incorporate as many components of a High-Performance School as is practical within the building's design and budget, for the sake of energy efficiency / conservation, user comfort and safety, improved curriculum delivery and student achievement, life-cycle cost savings to campus maintenance and operation and reduced environmental impacts. The characteristics listed below for a High-Performance School, accomplish many of the following Green Building and Sustainability design objectives in the national standards of Leadership in Energy and Environmental Design (LEED). However, while it is the District's intent to work as closely as possible to the LEED guidelines, certification for a specific level of compliance is considered an optional requirement.
 - Health and Indoor Air Quality
 - **Zero VOC paints, adhesives, sealants and coatings**
 - **Non-toxic cleaning materials**
 - **Demand control ventilation**
 - *Construction waste management*
 - *Construction IAQ management (during construction and/or before occupancy)*

SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

- *Formaldehyde-free fiberglass thermal and acoustical insulation*
 - Displacement ventilation / HVAC system
- Thermal Comfort
 - **High efficiency glazing / placement of windows**
 - **High R-value insulation in walls and roof**
 - **Cool roof coating**
 - **Energy management system**
 - **Exterior shaded areas to provide microclimate tempering**
 - *Shading devices over windows / doors*
- Visual Comfort
 - **Natural daylighting - view windows / clerestories**
 - **Lighting (direct / indirect fixtures)**
 - *Light selves above windows*
- Acoustic Comfort
 - **Acoustic insulation in walls and penetrations**
 - **Acoustic dampening of HVAC equipment at curbs and in ductwork**
- Security and Safety
 - **Layout of buildings to minimize "hidden" areas**
 - **Heavy-duty vandal-resistant hardware**
- Ecosystem Protection
 - **Surface water collection**
 - **Stormwater / groundwater management**
 - **Non-CFC based refrigerants**
 - Rainwater harvesting
 - Gray water systems
- Energy Efficiency
 - **High-efficiency central plant HVAC system**
 - **CO₂ sensors**
 - **Occupancy sensors to turn off light fixtures**
 - **Water heater controls**
 - **VFD's on pumps**
 - **Water side economizer**
 - **T-8 lamps in fixtures**
 - *Daylight sensors to lower light fixture illumination*
 - *Harmonic mitigation dry type transformers*
 - *Fixed-plate heat recovery*
 - *Air-side economizers*
 - *On-demand heat*
 - Photovoltaics
 - Heat wheel recovery
 - Thermal storage

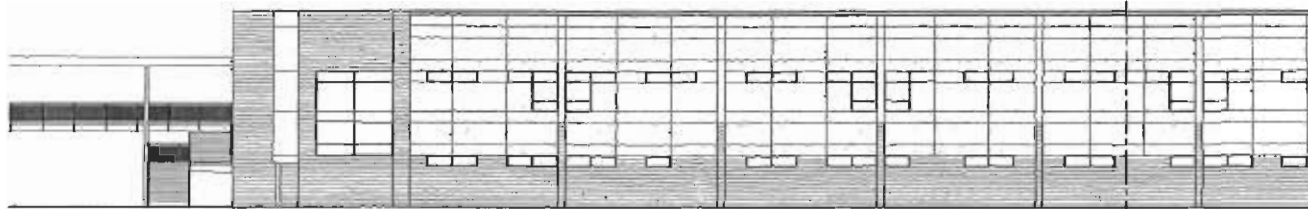
SAGUARO HIGH SCHOOL - ADDITIONS AND RENOVATIONS

Scottsdale Unified School District No. 48

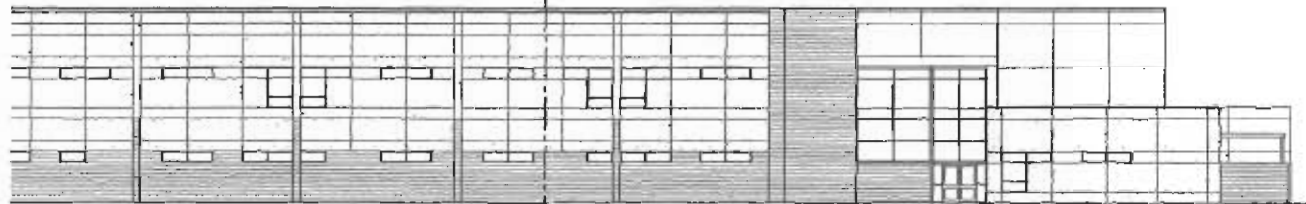
- Water Efficiency
 - **Low flow fixtures**
 - **Waterless urinals**
 - **Xeriscape**
 - **Irrigation technology to turn on / off heads by moisture sensing**
 - *Dual flush water closets in staff restrooms*
 - Infrared faucets (staff restroom only)
 - Bleed-off from cooling tower for irrigation
- Materials Efficiency
 - **Recycled backing - carpet**
 - **Natural flooring products**
 - **Demolition building material recycling**
 - **Masonry and steel construction**
 - **Impact resistant drywall**
 - **Non-fading and cleanable paints**
 - **Local materials**
 - *Wheatboard for casework*
- Buildings as a Teaching Tool
 - *Exposed building systems (shielded with Lexan / glass)*
 - *Electric power load monitoring system*
 - Photovoltaic integration (physical / curriculum based integration)

Note:

- Items above in **bold** are being incorporated into the design.
- Items above in *italics* can be considered for incorporation into the design pending budget verification.
- Items not in bold or italics will not be incorporated.



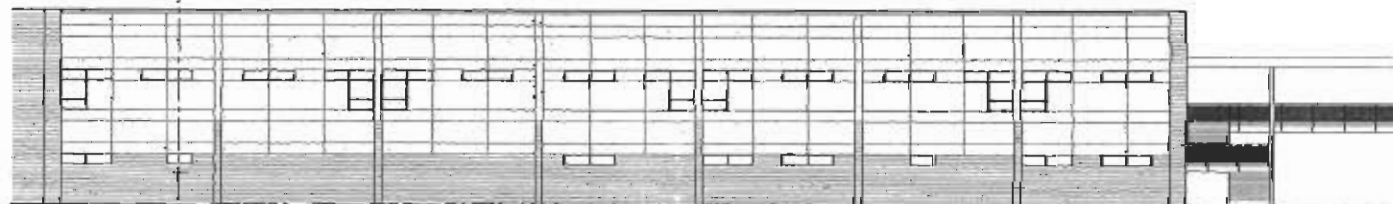
CLASSROOM BUILDING 300 - EAST ELEVATION
REV. 05.27.06



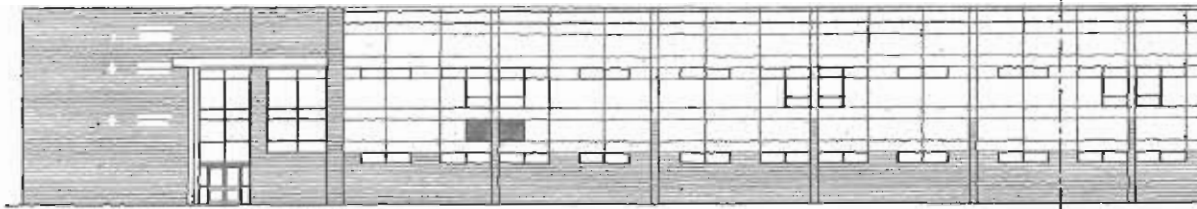
CLASSROOM BUILDING 300 - EAST ELEVATION
REV. 05.27.06



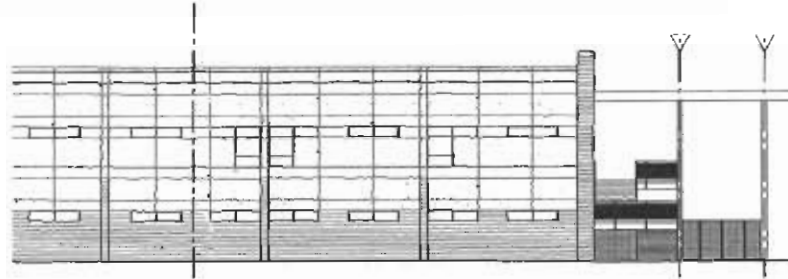
CLASSROOM BUILDING 300 - WEST ELEVATION
REV. 05.27.06



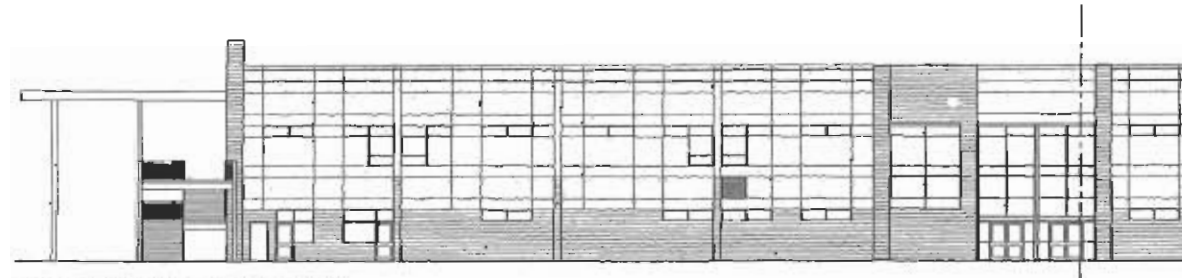
CLASSROOM BUILDING 300 - WEST ELEVATION
REV. 05.27.06



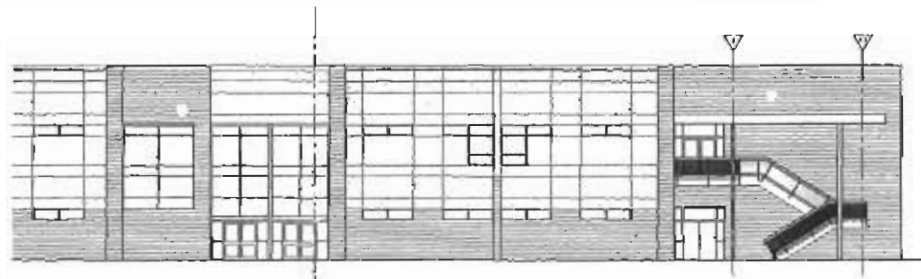
CLASSROOM BUILDING 100 - SOUTH ELEVATION
REV. 04-11-06



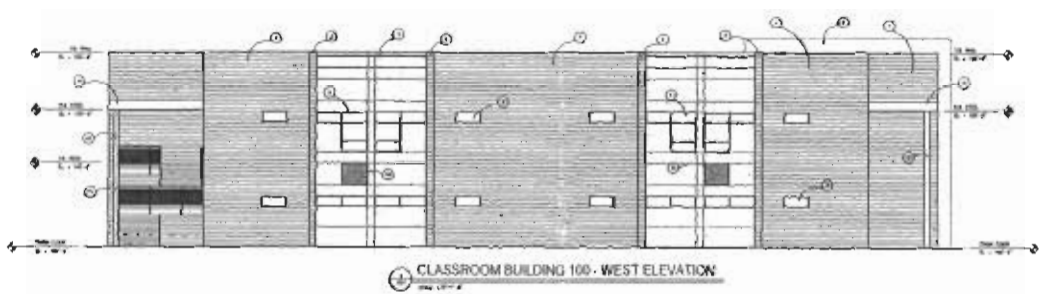
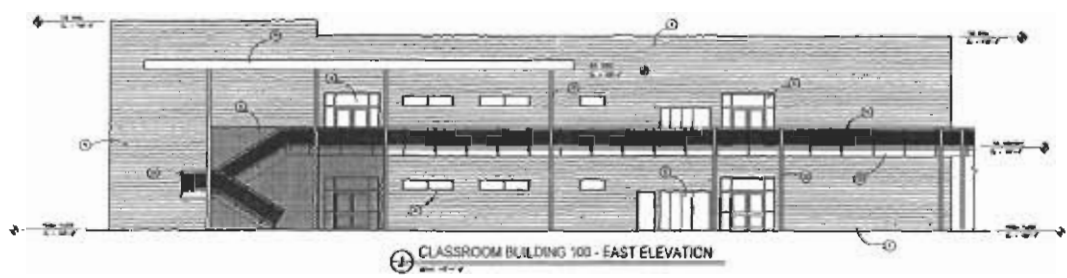
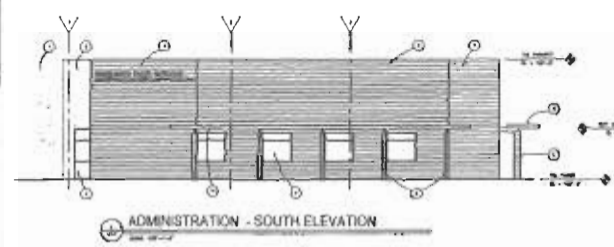
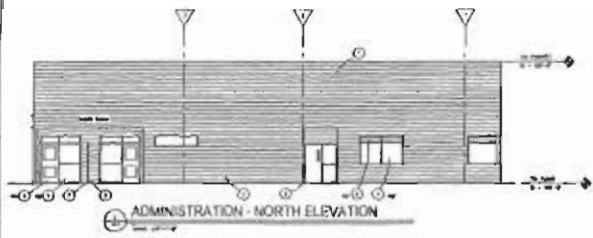
CLASSROOM BUILDING 100 - SOUTH ELEVATION
REV. 04-11-06







CLASSROOM BUILDING 100 - NORTH ELEVATION
REV. 04-11-06



CLASSROOM BUILDING 100 - NORTH ELEVATION
REV. 04-11-06



			
P1 Dark grey-green (medium) (lighter) Palm Springs (P1) B-101 (Palm Springs)	P2 Medium grey-green (lighter) Palm Springs (P2) B-121 (Palm Springs)	P3 Light grey (lighter) Palm Springs (P3) B-130 (Palm Springs)	P4 Tan (lighter) Palm Springs (P4) B-117 (Palm Springs)

SAGUARO HIGH SCHOOL

Scottsdale Unified School District



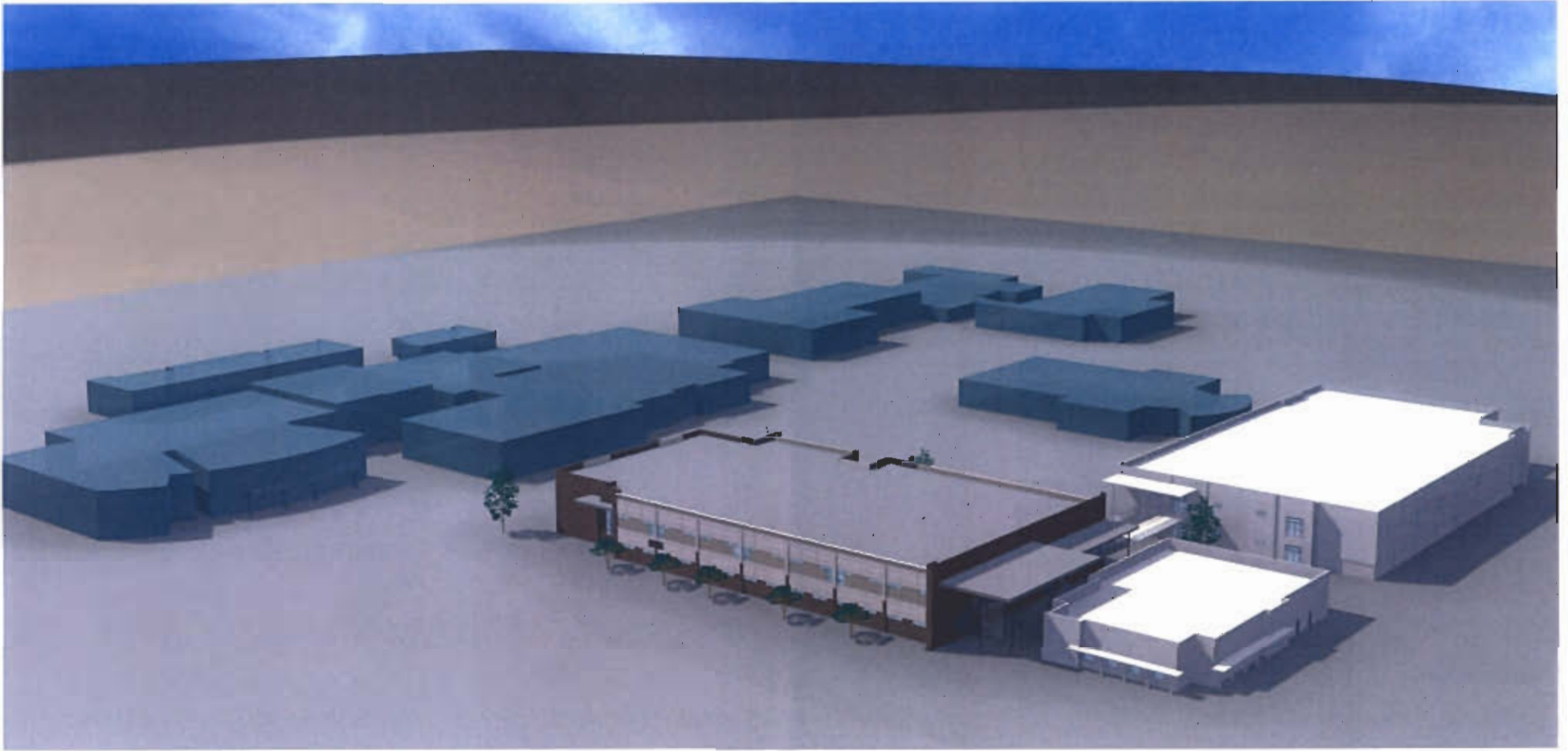
BUILDING 100 + ADMINISTRATION BUILDING
South Exterior Elevation



ADMINISTRATION BUILDING + BUILDING 300
East Exterior Elevation



ADMINISTRATION BUILDING + BUILDING 300 (construction)
East Exterior Elevation



SOUTH CAMPUS OVERVIEW



SAGUARO HIGH SCHOOL

Scottsdale Unified School District



65-DR-2006
5/30/2006

DLR Group



NORTH-EAST BUILDING 100, BUILDING 300 & ADMINISTRATION



SAGUARO HIGH SCHOOL

Scottsdale Unified School District



55-DR-2006
5/30/2006
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SOUTH-WEST BUILDING 100



SAGUARO HIGH SCHOOL

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55-DR-2006
5/30/2006

DLR Group



NORTH BUILDING 100 & BUILDING 300



SAGUARO HIGH SCHOOL

Scottsdale Unified School District



55-DR-2006
5/30/2006
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SOUTH-EAST BUILDING 100 & ADMINISTRATION



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55-DR-2006
5/30/2006



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NORTH-WEST BUILDING 300 & BUILDING 100



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55-DR-2006
5/30/2006

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